

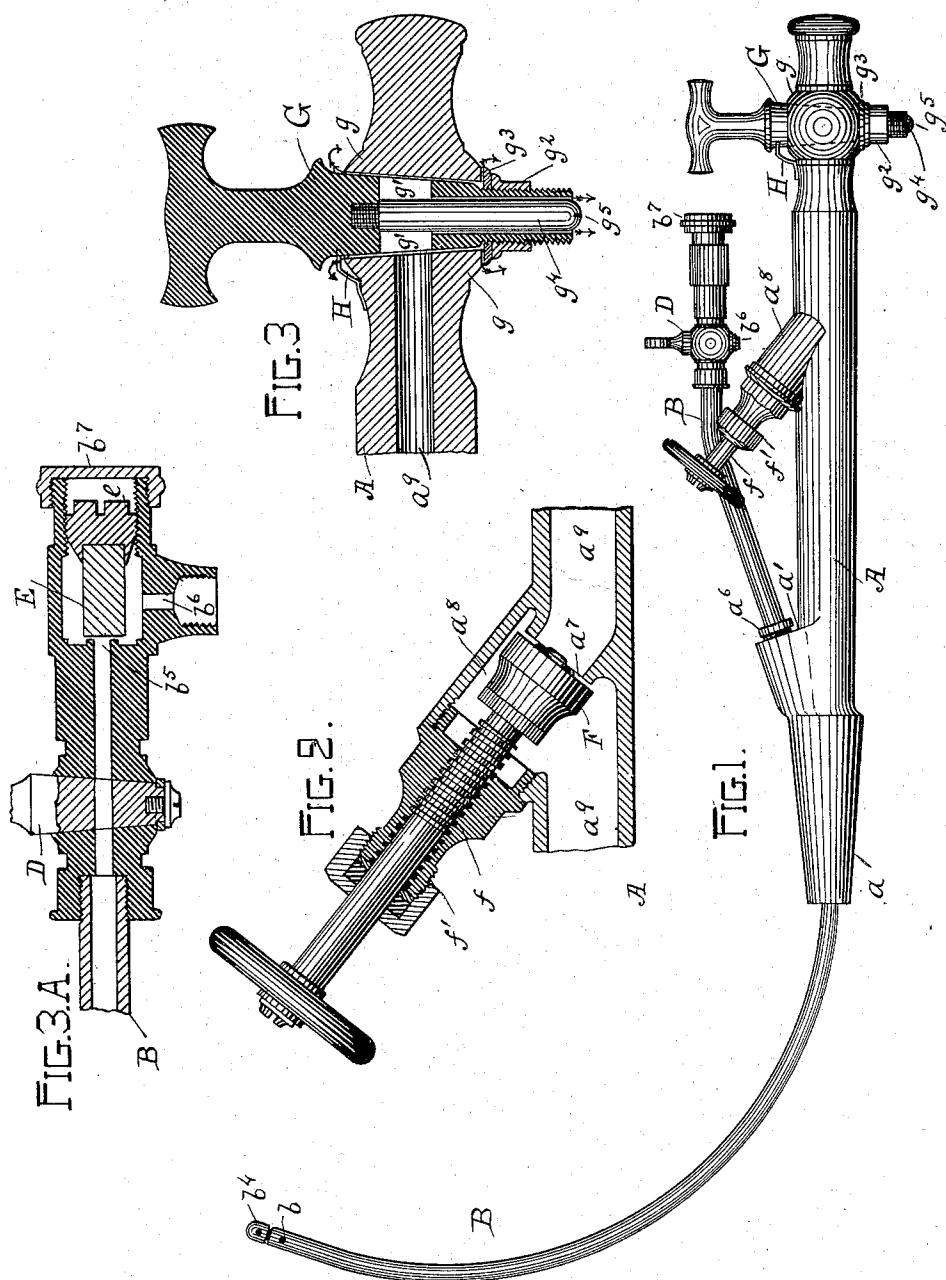
(No Model.)

2 Sheets—Sheet 1.

C. J. SCHUSTER.
STEAM BEER FAUCET.

No. 565,802.

Patented Aug. 11, 1896.



WITNESSES

George C. Byrne

Fabius T. Finch

INVENTOR

C. J. Schuster

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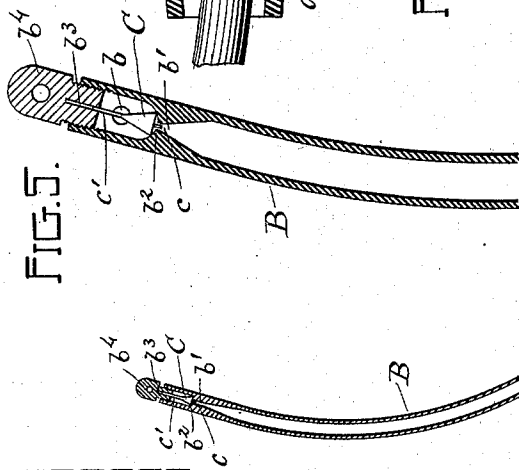
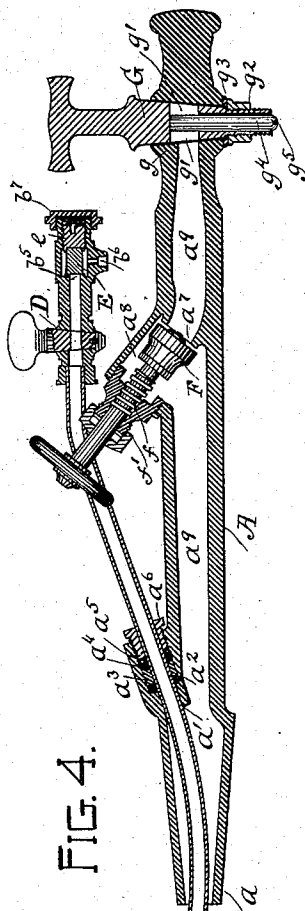
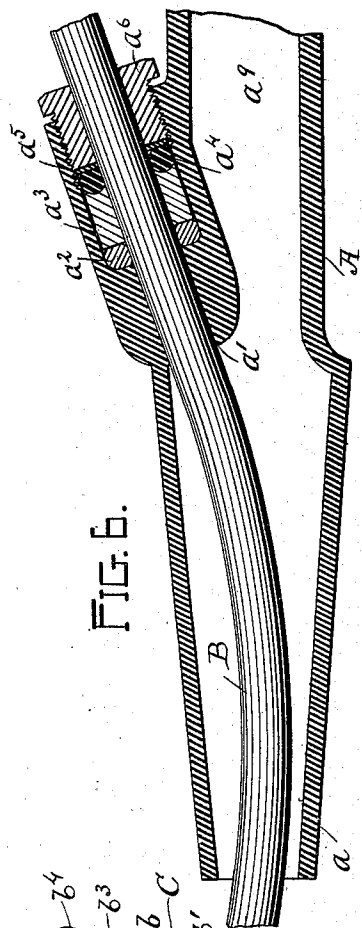
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UNITED STATES PATENT OFFICE.

CLEMENT J. SCHUSTER, OF SAN FRANCISCO, CALIFORNIA.

STEAM-BEER FAUCET.

SPECIFICATION forming part of Letters Patent No. 565,802, dated August 11, 1896.

Application filed June 15, 1895. Serial No. 552,922. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT J. SCHUSTER, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented a new and useful Steam-Beer Faucet, of which the following is a specification.

My invention relates to faucets that are to be used for draining malt liquors, and particularly that kind of beer known in California and elsewhere on the Pacific coast as "steam-beer."

The object of my said invention is to provide a device of the foregoing denomination that will draw steam-beer quickly without excess of foam and yet without depriving it unduly of the froth-creating gas with which it is charged and which imparts to it its natural sharpness.

Referring to the accompanying drawings for a detailed description of my invention, Figure 1 is a side elevation of the complete faucet, showing it in the position which it occupies after it is driven into a beer keg or barrel. Fig. 2 is a sectional elevation of a valve employed for breaking the pressure of the beer contained in the keg before the beer is allowed to reach the draining end of the faucet. Fig. 3 is a similar view of a rotary valve located at said draining end. Fig. 3^A is also a sectional elevation of a gas-valve and stop-cock placed at the outer end of a gas-venting tube used in connection with the faucet proper. Fig. 4 is a vertical longitudinal section of the device, taken in the same position as represented at Fig. 1. Fig. 5 is an enlarged detailed view of the inner end of the gas-venting tube, taken from the left of Fig. 4. Fig. 6 is a broken sectional elevation showing the connection between the gas-venting tube with the body of the faucet on an enlarged scale. Fig. 7 is a top view of a conical valve located at the inner end of the gas-vent tube, showing notches or indentations at the lower edge thereof.

Similar letters of reference are used to indicate similar parts throughout the various figures.

The letter A represents the shank or body of the faucet, which may be of any suitable metal, brass preferred. The faucet-body is made slightly tapering at the inner end, as at

a, to enable it to enter the keg or barrel of beer readily. It is also provided at the same end with a tubular opening a' to receive a curved tube B, adapted to pass through said opening and thence through the open end of the shank into the keg.

The tube B is employed for venting purposes, that is to say, with the view of affording facilities for letting the beer-gas escape from the keg to a limited extent, and to this end it is passed through the opening a' and the tapering part of the faucet-body for the greater part of its length or until it reaches the upper part of the inside or roof of the keg above the liquid therein.

The joint between the tube B and the shank A has to be carefully made in order to render it gas-tight and at the same time provide for the ready insertion of the tube into the shank. I therefore make the opening a' narrow at the base, where the vent-tube enters the faucet-body, and wide at the outer end. At the bottom of the wider portion I place a leather washer a², and upon this some wicking a³, impregnated or mixed with candle-grease and arranged in a tubular form around the inner walls of the opening a'. Over the wicking comes a rubber ring a⁴, round in cross-section. A brass or other metallic washer a⁵ is then set upon the rubber ring, and the whole is capped by a bushing a⁶, having an external screw-thread adapted to engage an internal thread in the upper part of the opening. Packed in this way the joint may be made as tight as desired and there is no difficulty experienced in passing the vent-tube through the shank of the faucet, the joint being smooth enough to permit the tube to slip through easily, and yet of sufficient compactness to withstand the enormous pressure of the gas from the beer inside the keg.

The gas from the beer is admitted into the vent-tube through side apertures b, leading to a port b', controlled by a conical valve C, seated at b². This valve is maintained in proper position and guided in its movements by means of a small teat or point c, projecting beyond the seat b², and a stem c', fitted in a hole b³, drilled in the inner end of a screw-plug b⁴, that stops the outer end of the tube B. As it normally rests upon its seat the valve C is further provided with notches or

indentations c^2 at the base, as shown at Fig. 7, in order to facilitate the ingress of the gas. From the port b' the gas can flow unimpeded to the outer end of the vent-tube, where the flow is again controlled by a rotary valve or stop-cock D, by means of which the gas can either be shut off entirely or admitted wholly or partly to the port b^5 and thence to the outlet b^6 . The port b^5 is governed by a valve E, composed of some elastic or compressible substance, as rubber, and adapted to be set so as to perform the office both of an automatic valve and of a permanently-set valve. Said valve E is held by a screw-plug e , working within the head of the tube B, under a screw-cap b^7 . If the plug be driven in, the valve E can be seated so firmly against the port b^5 that it will resist all the pressure of the gas within the keg up to a certain extent, say as much as the keg can safely be depended upon to stand, the stop-cock in the meanwhile being open. Should the pressure be excessive, the gas forces its way out by compressing the valve in an opposite direction to that of the screw-plug, and thereby prevents the keg from exploding. The valve reverts back to its seat upon the pressure being relieved, and in this sense it is automatic. On the other hand, when there is no more pressure than the keg can easily withstand the plug e can be retracted and the valve E permanently set and held at a suitable distance from the port b^5 , in which case the outward flow of the gas is under command of the stop-cock.

F represents a valve set within the middle portion of the faucet-body and designed to break the pressure of the steam-beer rushing out of the keg before the liquor is allowed to reach the end of the faucet where it is drawn off. This valve has a strong round body extending over a port a^7 in the forward part of the faucet and is placed within a suitable chamber a^8 , preferably in a reclined position, as shown. It has a screw-threaded spindle f passed and working through a stuffing-box f' . As will be seen by reference to Figs. 2 and 4 of the drawings, it can be operated so as to close and uncloze the port a^7 wholly or partly, as may be found necessary or convenient. For example, the port may be closed entirely when the faucet is driven into the keg, then partly opened when the first beer is drawn, and finally uncovered to the full extent as the inside pressure is growing less.

The beer is drained through the rotary valve or plug G, which is seated within the chamber or barrel g at the outer end of the faucet. This plug is hollow in the lower portion, opening downwardly, and has lateral apertures g' , adapted to register with the channel or passage a^9 , running through the faucet-body. It is somewhat loosely fitted within the barrel g' , so that it can be lifted as well as turned within the same. It is held in place by means of a nut g^2 and washer g^3 , engaging an external screw-thread at its lower end and

run up to a point close to the lower end of the barrel g . Within the hollow portion of the plug and concentric with it is placed a small rod or pencil g^4 , secured by screw-threads to the body of the plug above the apertures g' and provided with a slit g^5 at the lower end, so it may be turned by a screw-driver. Thus constructed, the valve or plug G presents two tubular and concentric openings for the escape of the beer when lifted from its seat and turned in such a way as to bring the apertures g' in line with the passage a^9 . The flow is therefore divided within the plug as well as without and the beer will not effervesce or foam so rapidly upon striking the glass it is drawn in and reaching the outside air.

A flat spring H, fastened to the faucet-body on the upper side and bearing upon the plug G, helps to steady the latter by frictional contact when it is operated to draw the beer, preventing the plug from being raised too high on account of the inside pressure and guiding the person drawing the beer in slowly lifting the T-handle of the faucet to the proper height.

My improved faucet is operated as follows: The faucet is driven into the keg as soon as the same is brought to the place where the beer is to be consumed. It is inserted, of course, with the venting-tube in a retracted position and stopped at the outer end, the inner curved end of the tube lying within the tapering part of the shank and closing the tubular opening a' , the packing in which is compressed sufficiently to prevent the escape of gas at that point. The tapering end of the shank having been driven in far enough the venting-tube is forced through the opening a' and pushed into the keg as far as it will go, and the joint with the body of the faucet is rendered as tight as possible by firmly screwing down the bushing a^6 . The keg is then placed on the rack and the beer allowed to settle for a definite length of time, determined in each case by the manner in which the beer has been sent out and the time spent in transit. It is thought that forty-eight hours will be ample to allow the foam in the keg to subside and resolve itself into pure gas at the top of the liquid. In the meantime the stop-cock D may be opened and the compressible valve E arranged in the manner above described to close against the pressure, which, if it became too great, would force back the valve and afford the needed relief. At the expiration of the time allowed for the beer to settle the stop-cock D is turned off and the valve E set so as to partly uncover the port b^5 , there being no further use for an automatic valve, since the pressure of the gas grows less as the beer is drawn off, and whatever tends to create an excess of foam in the beer can be let out through the stop-cock. The beer is drawn by unscrewing the pressure-valve F and turning the plug G, as will be readily understood. The valve

F is but partly opened at first in order that it may encounter fully and break the force of the flow as the beer rushes through the faucet, permitting the beer to come out to the draining end only in a stream of much reduced size and running very gently. Upon lifting the T-handle of the faucet and turning the plug to have its openings in line with the channel in the faucet-body, the beer will be admitted to the chamber or barrel *g*, when its flow will be further broken and divided between the various openings, coming out from the inside of the plug, around the pencil therein, and from the outside as well, along the inner walls of the plug-chamber, under the spring H and below the shoulder of the T-handle at the top, and above the nut and washer at the bottom, as indicated by arrows in Fig. 3. Should there be still too much foam in the beer when drawing it into the drinking-glass, a little gas can be let out through the stop-cock D. On the contrary, should the beer come out rather flat the pressure-valve can be opened a little more and a more active flow of the liquor induced. Properly handled, the faucet should always insure the right sort of flow into the glass, the beer dripping therein gently and yet

rapidly in its natural brown or amber color and being charged with just enough gas to cause it to effervesce lightly upon coming into contact with the outside air and so produce sufficient foam to put a nice crown on top of the glass and no more.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a faucet, the faucet-body provided with a tapered chamber and a hollow tapered plug having the openings *g'*; combined with the rod or pencil placed inside of the plug and projecting through the bottom of the same, said plug being adapted to be vertically reciprocated as well as turned within its chamber, substantially as described.

2. The combination of a faucet, a gas-venting tube connected with said faucet, valves at both ends of the tube and an intermediate stop-cock.

In testimony whereof I affix my signature in presence of two witnesses.

CLEMENT J. SCHUSTER. [L. S.]

Witnesses:

A. H. STE. MARIE,
HENRY P. TRICOU.